

# Qualitative Analysis

The key areas of study in this topic are:

- how to interpret chemical tests to identify an unknown compound
- how to write equations for these tests

By the end of this topic I should be able to:

	Start	End
9.1C Explain why the test for any ion must be unique		
9.2C Describe flame tests to identify the following ions in solids: Li <sup>+</sup> (red) Na <sup>+</sup> (yellow) K <sup>+</sup> (lilac) Ca <sup>2+</sup> (orange-red) Cu <sup>2+</sup> (blue-green)		
9.3C Describe tests using sodium hydroxide solution to identify the following ions in solids or solutions as appropriate: Al <sup>3+</sup> Ca <sup>2+</sup> Cu <sup>2+</sup> Fe <sup>2+</sup> Fe <sup>3+</sup> NH <sub>4</sub> <sup>+</sup>		
9.4C Describe the chemical test for ammonia		
9.5C Describe tests to identify the following ions in solids or solutions as appropriate: CO <sub>3</sub> <sup>2-</sup> SO <sub>4</sub> <sup>2-</sup> Cl <sup>-</sup> Br <sup>-</sup> I <sup>-</sup>		
9.6C Core Practical: Identify the ions in unknown salts, using the tests above		
9.7C Identify the ions in unknown salts, using results of the tests above		
9.8C Describe that instrumental methods of analysis are available and that these may improve sensitivity, accuracy and speed of tests		
9.9C Evaluate data from a flame photometer: <ul style="list-style-type: none"> <li>• to determine the concentration of ions in dilute solution using a calibration curve</li> <li>• to identify metal ions by comparing the data with reference data (no knowledge of the instrument or how it works is required)</li> </ul>		

